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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/992,823	11/14/2001	Daniel W. Wong	ATI.0100520	5879

34456	7590	09/22/2005
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EXAMINER	
CHAI, LONGBIT	

ART UNIT	PAPER NUMBER
2131	

DATE MAILED: 09/22/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

5

Office Action Summary

Application No.

09/992,823

Applicant(s)

WONG ET AL.

Examiner

Longbit Chai

Art Unit

2131

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 9/7/2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-47 and 49-54 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-47 and 49-54 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 November 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Claims 1 – 62 have been presented for examination. Claims 48 and 55 – 62 have been canceled in an amendment filed 9/7/2005. Therefore, presently pending claims are 1 – 47 and 49 – 54.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1, 17, 31, 40 and 47 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 1, 17, 31, 40 and 47 is indefinite because the claim language “sending a first encrypted routine of a software driver” would mislead one ordinary skilled person in the art who may interpret it as “sending an encrypted software driver routine (i.e. the software driver code itself is encrypted before sending)”, which is not supported by the specification (Para [0012]) accordingly. Therefore, the specific claim language is respectfully requested to correct the ambiguity and indefiniteness of the claim limitation without introducing the new matter.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraph of 35 U.S.C. 102 that forms the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1, 9 – 10, 12, 31 – 32, 47, 49, 52 and 54 are rejected under 35 U.S.C. 102(e) as being anticipated by Glover (Patent Number: 6868495).

As per claim 1, 31 and 49, Glover teaches a method comprising the steps of:

sending a first encrypted routine of a software driver to a peripheral device, wherein the software driver is to interface with the peripheral device (Glover: Column 11 Line 1 – 19 & Figure 3: (a) the encrypted code / routine is transferred to the device driver as taught by Glover (b) the file system driver and the operation system as a whole, as taught by Glover, that interface between the processor and the peripheral device according to the specification (Para [0012]), is considered by Examiner as a complete entity as the “software driver” to meet the claim language in the broadest and reasonable manners).

Decrypting at the peripheral device, the first encrypted routine to generate a plaintext routine (Glover: Column 11 Line 18 – 19); and

providing the plaintext routine to the software driver (Glover: Column 11 Line 18 – 19).

As per claim 9, Glover further teaches removing the plaintext routine (Glover: see for example: Column 20 Line 40 – 42).

As per claim 10, 32 and 54, Glover further teaches encrypting, at the peripheral device, the plaintext routine to generate a second encrypted routine, where the second encrypted routine is a version of the first encrypted routine; providing the second encrypted routine to the software driver (Glover: Column 22 Line 20 – 25 and Column 11 Line 1 – 19 & Figure 3: the debugging tool to monitor the opcode, as taught by Glover, must be managed by the software driver as defined in claim 1).

As per claim 12, Ciacelli further teaches the second encrypted routine is a modified version of the first encrypted routine (Glover: Column 22 Line 20 – 25).

As per claim 47, Ciacelli teaches a method comprising the steps of:
sending a first encrypted routine of a first software driver to a peripheral device, wherein the software driver is to interface with the peripheral device (Glover: Column 11 Line 1 – 19: (a) the encrypted code / routine is transferred to the device driver as taught by Glover (b) the file system driver and the operation system as a whole, as taught by Glover, that interface between the processor and the peripheral device according to the

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specification (Para [0012]), is considered by Examiner as a complete entity as the “software driver” to meet the claim language in the broadest and reasonable manners);

decrypting, at the peripheral device, the first encrypted routine to generate a plaintext routine (Glover: Column 11 Line 18 – 19); and

providing the plaintext routine to a second software driver ((Glover: Column 11 Line 18 – 19: the 1st and the 2nd software drivers are interpreted as being characterized by the time difference during the process in a timely manner).

As per claim 52, Glover teaches the application includes a software driver (Glover: Column 11 Line 1 – 19 & Figure 3: the file system driver (driver application) and the operation system as a whole, as taught by Glover, that interface between the processor and the peripheral device according to the specification (Para [0012]), is considered by Examiner as a complete entity as the “software driver” to meet the claim language in the broadest and reasonable manners).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

A person shall be entitled to a patent unless –

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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4. Claims 2, 3, 8, 11, 13, 16, 33, 38 – 39 and 50 – 51 are rejected under 35 U.S.C. 103(a) as being unpatentable over Glover (Patent Number: 6868495), in view of Candelore (Patent Number: 2002/0073315).

As per claim 2, 11, 39 and 50, Glover teaches sending an encryption code to the peripheral device (Glover: Column 11 Line 13 – 14). However, Glover does not teach the first encrypted routine is an encrypted version of an encryption routine.

Ciacelli teaches the first encrypted routine is an encrypted version of an encryption routine (Ciacelli: Column 5 Line 55 – 56 and Column 6 Line 54 – 60; Glover: Column 11 Line 13 – 19: Glover teaches providing encrypted code while Ciacelli teaches the code can be an update of the encryption routine – i.e., an encrypted version of an encryption routine).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine the teaching of Ciacelli within the system of Glover because Ciacelli teaches an enhanced system security method for encryption / decryption of data (including routine code) within a computer system for communication from a processor to an accessible internal structure (such as memory or bus) without exposing the data in unscrambled form at the accessible structure (Ciacelli: Column 1 Line 6 – 13).

As per claim 3, Glover does not teach the first encrypted routine is an encrypted version of a decryption routine.

Ciacelli teaches the first encrypted routine is an encrypted version of a decryption routine (Ciacelli: see for example: Column 5 Line 43 – 45).

See the same rationale of combination as above in rejecting claim 2.

As per claim 8, 33 and 38, Glover does not teach sending a decryption code to the peripheral device, where the decryption code is to be used by the peripheral device to decrypt the first encrypted routine.

Ciacelli teaches sending a decryption code to the peripheral device, where the decryption code is to be used by the peripheral device to decrypt the first encrypted routine (Ciacelli: see for example: Column 5 Line 45 – 60).

See the same rationale of combination as above in rejecting claim 2.

As per claim 13, Glover does not teach selecting the first encrypted routine from a plurality of different encrypted routines, wherein the plurality of different encrypted routines are functionally equivalent.

Ciacelli teaches selecting the first encrypted routine from a plurality of different encrypted routines, wherein the plurality of different encrypted routines are functionally equivalent (Ciacelli: see for example: Column 14 Line 10 – 15).

See the same rationale of combination as above in rejecting claim 2.

As per claim 16, Glover does not teach providing includes storing the plaintext routine in a location in memory accessible by the software driver, and where the location in memory is known to the software driver.

Ciacelli teaches the providing includes storing the plaintext routine in a location in memory accessible by the software driver, and where the location in memory is known to the software driver (Glover: Column 11 Line 18 – 19: when the device driver provides the plaintext routine to the operating system / software driver as taught by Glover, the plaintext routine must be stored in a location definitely known to the operating system / software driver).

See the same rationale of combination as above in rejecting claim 2.

As per claim 51, Glover does not teach the first encrypted data includes an encrypted version of one of: a private encryption key, a private decryption key, a chip ID, and a device ID.

Ciacelli teaches the first encrypted data includes an encrypted version of one of: a private encryption key, a private decryption key, a chip ID, and a device ID (Ciacelli: see for example: Column 6 Line 42 – 45).

See the same rationale of combination as above in rejecting claim 2.

5. Claims 4 – 7 and 53 are rejected under 35 U.S.C. 103(a) as being unpatentable over Glover (Patent Number: 6868495), in view of Freeman (Patent Number: 2002/0129374).

As per claim 4 and 53, Glover does not disclose expressly the peripheral device is a graphics chip.

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Freeman teaches the hardware device is a graphic chip (Freeman: see for example, Paragraph [0117]).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine the teaching of Freeman within the system of Glover because (a) Glover discloses the protection of illegal copying of video multimedia content (Glover: Column 2 Line 43 – 60) and (b) Freeman teaches using a graphic chip for the MPEG adaptation to process the video data stream (Freeman: see for example, Paragraph [0117] and Figure 7 Element 376 & 388).

As per claim 5, Freeman teaches decrypting is performed by a 3D pipe of the graphics chip (Freeman: see for example, Paragraph [0117]: 3D (3-Dimension) engine is merely one part of a series of video graphic chips in this claimed subject of matter to perform encryption / decryption).

As per claim 6, Freeman teaches decrypting is performed by a IDCT component of the graphics chip (Freeman: see for example, Paragraph [0117]: IDCT component is merely one part of a series of video graphic chips in this claimed subject of matter to perform encryption / decryption).

As per claim 7, claim 7 does not further teach over claim 5 or 6 as addressed above.

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6. Claims 14 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Glover (Patent Number: 6868495), in view of Wilson (Patent Number: 4520232).

As per claim 14, Glover does not disclose expressly decrypting includes using a map as a decryption key.

Wilson teaches decrypting includes using a map as a decryption key (Wilson: see for example: Column 2 Line 12 – 24).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine the teaching of Wilson within the system of Glover because Wilson teaches providing a poly-graphic encryption mechanism which is both fast and inexpensive with enhanced security strength (Wilson: see for example, Column 1 Line 28 – 34).

As per claim 15, Wilson further teaches the map includes a texture map (Wilson: see for example, Column 1 Line 28 – 34: the matrix is qualified as a two-dimensional texture map).

7. Claims 17 – 27, 30 and 40 – 46 are rejected under 35 U.S.C. 103(a) as being unpatentable over Glover (Patent Number: 6868495), in view of Freeman (Patent Number: 2002/0129374), and in view of Candelore (Patent Number: 2002/0073315).

As per claim 17 and 40, Glover teaches a method comprising:

sending a first encrypted routine of a software driver to a graphics chip, wherein the software driver is to interface with the graphics chip, and where the first encrypted routine is an encrypted version of an encryption routine (Glover: Column 11 Line 1 – 19 & Figure 3: (a) the encrypted code / routine is transferred to the device driver as taught by Glover (b) the file system driver and the operation system as a whole, as taught by Glover, that interface between the processor and the peripheral device according to the specification (Para [0012]), is considered by Examiner as a complete entity as the “software driver” to meet the claim language in the broadest and reasonable manners).

Glover does not disclose expressly the hardware device associated with the device driver is a graphic chip.

Freeman teaches the hardware device is a graphic chip (Freeman: see for example, Paragraph [0117]).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine the teaching of Freeman within the system of Glover because (a) Glover discloses the protection of illegal copying of video multimedia content (Glover: Column 2 Line 43 – 60) and (b) Freeman teaches using a graphic chip for the MPEG adaptation to process the video data stream (Freeman: see for example, Paragraph [0117] and Figure 7 Element 376 & 388).

decrypting, at the graphics chip, the first encrypted routine to generate a plaintext routine (Glover: Column 11 Line 18 – 19; Freeman: Paragraph [0117]) . However,

Glover as modified does not teach the plaintext routine is a version of the encryption routine.

Ciacelli teaches the plaintext routine is a version of the encryption routine (Ciacelli: Column 5 Line 55 – 56 and Column 6 Line 54 – 60; Glover: Column 11 Line 13 – 19: Glover teaches providing decrypted code while Ciacelli teaches the code can be an update of the encryption routine – i.e., a version of the encryption routine).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine the teaching of Ciacelli within the system of Glover as modified because Ciacelli teaches an enhanced system security method for encryption / decryption of data (including routine code) within a computer system for communication from a processor to an accessible internal structure (such as memory or bus) without exposing the data in unscrambled form at the accessible structure (Ciacelli: Column 1 Line 6 – 13).

storing the plaintext routine in memory in a location known to the software driver (Glover: Column 11 Line 18 – 19: when the device driver provides the plaintext routine to the operating system / software driver as taught by Glover, the plaintext routine must be stored in a location definitely known to the operating system / software driver).

As per claim 18, Ciacelli further teaches sending a decryption code to the peripheral device, where the decryption code is to be used by the peripheral device to decrypt the first encrypted routine (Ciacelli: see for example: Column 5 Line 45 – 60).

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As per claim 19 and 44, Freeman teaches decrypting is performed by a 3D pipe of the graphics chip (Freeman: see for example, Paragraph [0117]: 3D (3-Dimension) engine is merely one part of a series of video graphic chips in this claimed subject of matter to perform encryption / decryption).

As per claim 20 and 45, Freeman teaches decrypting is performed by a IDCT component of the graphics chip (Freeman: see for example, Paragraph [0117]: IDCT component is merely one part of a series of video graphic chips in this claimed subject of matter to perform encryption / decryption).

As per claim 21 and 46, claim 21 and 46 do not further teach over claim 20 and 45 as addressed above.

As per claim 22, Ciacelli further teaches decrypting is performed through a series of components coupled within the graphics chip (Ciacelli: see for example: Column 7 Line 58 – 65).

As per claim 23, Ciacelli further teaches removing the plaintext routine (Ciacelli: see for example: Column 7 Line 16 – 21).

As per claim 27, Ciacelli further teaches selecting the first encrypted routine from a plurality of different encrypted routines, wherein the plurality of different encrypted routines are functionally equivalent (Ciacelli: see for example: Column 14 Line 10 – 15).

As per claim 30, Glover further teaches providing includes storing the plaintext routine in a location in memory accessible by the software driver, and where the location in memory is known to the software driver (Glover: Column 11 Line 18 – 19: when the device driver provides the plaintext routine to the operating system / software driver as taught by Glover, the plaintext routine must be stored in a location definitely known to the operating system / software driver).

As per claim 24, Glover further teaches encrypting, at the peripheral device, the plaintext routine to generate a second encrypted routine, where the second encrypted routine is a version of the first encrypted routine (Glover: Column 22 Line 20 – 25).

providing the second encrypted routine to the software driver (the debugging tool to monitor the opcode, as taught by Glover, must be managed by the software driver as defined in claim 17).

As per claim 25, Glover teaches sending an encryption code to the peripheral device (Glover: Column 11 Line 13 – 14), where the encryption code is to be used by the peripheral device to encrypt the plaintext routine (Ciacelli: Column 5 Line 55 – 56 and Column 6 Line 54 – 60; Glover: Column 11 Line 13 – 19: Glover teaches providing

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encrypted code while Ciacelli teaches the code can be an update of the encryption routine – i.e., an encrypted version of an encryption routine).

As per claim 26, Ciacelli further teaches the second encrypted routine is a modified version of the first encrypted routine (Glover: Column 22 Line 20 – 25).

As per claim 41, Ciacelli further teaches said first interface and said second interface are implemented using a same interface (Ciacelli: see for example: Column 5 Line 43 – 48: the same interface of decryption module to receive and execute the decryption function for encrypted routine).

As per claim 42, Glover further teaches encrypt the plaintext routine to generate a second encrypted routine, wherein the second encrypted routine is a modified version of the first encrypted routine; providing the second encrypted routine to said interface (Glover: Column 22 Line 20 – 25 and Column 11 Line 1 – 19 & Figure 3: the debugging tool to monitor the opcode, as taught by Glover, must be managed by the software driver as defined in claim 1).

As per claim 43, Ciacelli further teaches the first hardware component and the second component are implemented using a same hardware component (Ciacelli: see for example: Column 5 Line 43 – 48: the same hardware component of decryption module to receive and execute the decryption function for encrypted routine).

8. Claims 34 -- 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Glover (Patent Number: 6868495), in view of Candelore (Patent Number: 2002/0073315), and in view of Freeman (Patent Number: 2002/0129374).

As per claim 34, Glover as modified does not disclose expressly the peripheral device is a graphics chip.

Freeman teaches the hardware device is a graphic chip (Freeman: see for example, Paragraph [0117]).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine the teaching of Freeman within the system of Glover as modified because (a) Glover discloses the protection of illegal copying of video multimedia content (Glover: Column 2 Line 43 – 60) and (b) Freeman teaches using a graphic chip for the MPEG adaptation to process the video data stream (Freeman: see for example, Paragraph [0117] and Figure 7 Element 376 & 388).

As per claim 35, Glover does not teach decrypting is performed by a 3D pipe of the graphics chip.

Freeman teaches decrypting is performed by a 3D pipe of the graphics chip (Freeman: see for example, Paragraph [0117]: 3D (3-Dimension) engine is merely one part of a series of video graphic chips in this claimed subject of matter to perform encryption / decryption).

See the same rationale of combination as above in rejecting claim 34.

As per claim 36, Glover does not teach decrypting is performed by a IDCT component of the graphics chip.

Freeman teaches decrypting is performed by a IDCT component of the graphics chip (Freeman: see for example, Paragraph [0117]: IDCT component is merely one part of a series of video graphic chips in this claimed subject of matter to perform encryption / decryption).

See the same rationale of combination as above in rejecting claim 34.

As per claim 37, claim 37 does not further teach over claim 35 or 36 as addressed above. See the same rationale addressed above.

9. Claims 28 and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Glover (Patent Number: 6868495), in view of Freeman (Patent Number: 2002/0129374), in view of Candelore (Patent Number: 2002/0073315), and in view of Wilson (Patent Number: 4520232).

As per claim 28, Glover as modified does not disclose expressly decrypting includes using a map as a decryption key.

Wilson teaches decrypting includes using a map as a decryption key (Wilson: see for example: Column 2 Line 12 – 24).

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It would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine the teaching of Wilson within the system of Glover as modified in view of Freeman because Wilson teaches providing a poly-graphic encryption mechanism which is both fast and inexpensive with enhanced security strength (Wilson: see for example, Column 1 Line 28 – 34).

As per claim 29, Wilson further teaches the map includes a texture map (Wilson: see for example, Column 1 Line 28 – 34: the matrix is qualified as a two-dimensional texture map).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Longbit Chai whose telephone number is 571-272-3788. The examiner can normally be reached on Monday-Friday 8:00am-4:00pm.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ayaz R. Sheikh can be reached on 571-272-3795. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


LBC

Longbit Chai
Examiner
Art Unit 2131


Primary Examiner
AU2131
9/10/05